INDEX OF SURGICAL PROGRESS.

GENERAL SURGERY.

I. **The Animal Suture.** By Dr. H. O. MARCY (Boston). The most interesting chapter in the history of animal ligatures describes their use and widespread adoption in the ligation of arteries for many years in America.

Jamieson, of Baltimore, in 1827, wrote: "Physick and Cooper, by employing a ligature having the property of dissolubility, greatly improved our practice. Physick's ligature, first used in 1814, have done much good. Cooper, in tying, in 1817, the femoral artery of a man, æt. 80 years, and the healing of the wound by the fourth day, shows the superiority of this method over that of Scarpa." Physick and Dorsey cut their ligatures from chamois leather, and rolled them on a smooth surface to make them hard and round. McDowell tied the pedicle in his ovariotomy cases with buckskin ligatures and closed the wound. This was also the practice of Nathan Smith, in 1829, John Bellinger, in 1835, and others.

The state of the artery, the processes of change going on in the blood, the so called inflammatory processes, etc., occupied the attention of the surgeons of that period rather than the consideration of the material of the ligature, although the eminent men referred to emphasized the importance of a material which was removed by the absorbents rather than eliminated as a foreign body.

Dr. Marcy points out the value of these early and interesting studies upon a subject of the first importance, and emphasizes the originality and honor as due to American surgery.

The author, after reviewing briefly the well known studies of Mr. Lister and the new era in surgery thereby inaugurated, gives brief reference to his first use, in 1871, of buried animal sutures, aseptically applied to retain the abdominal contents, after an unusually large opening, made to reduce a strangulated hernia. The repair was rapid and cure permanent. This led Dr. Marcy to a series of histological studies made upon animals to ascertain what became of the sutures left aseptically buried in the different structures of the body. He determined that there ensued a proliferation of connective tissue cells about the suture which, with a greater or less rapidity, dependent upon condition of suture and of the surrounding parts, invaded the structure, and, little by little, it was not only absorbed, but in large measure was replaced by a band of living tissue. He first published his observations in 1871, and again in 1878, presented a further contribution upon the subject.

Believing his demonstrations were correct and dependent thereon, the importance of the material used, as well as the manner of application to the tissues, Dr. Marcy entered upon a systematic study of animal suture. He regards catgut as defective; first, in its primary preparation, fermented until the mucous coat of the intestine becomes a putrefying mass, in order to separate the thin connective sheath from the mucous and muscular coats; it is consequently liable to be infective. Second, the connective tissue fibrils are diagonally disposed in a very thin layer. Thirdly, the necessary twisting, and often sand-papering for finish, damages the structure as material for suturing. The parallel disposition of the cells and fibrils in tendons greatly increases their strength and resistance to change in the tissues, and consequently they are better fitted for sutures. They are easily obtainable from a number of animals, are preserved non-infected by simple drying, and when soaked can be separated as fine as desired. The history of the tendon sutures is given in detail, and from the results arrived at by Dr. Marcy he has a decided preference for the tendons obtained from the tail of the kangaroo. The Indian tendon suture, the fascia lata of the moose, dried and smoked with the tribes of the Northwest, an article of commerce and easily obtainable, furnishes excellent material for sutures.

Dr. Marcy reports his experiences with the buried animal sutures applied to all variety of wounds. He recommends their use only by strict disciplinarians of aseptic surgery under this rigid rule: "An aseptic suture, aseptically applied, in an aseptic wound."

He claims that an aseptic wound should be entirely closed by buried animal sutures, the stitches taken from side to side, lightly through the deeper layer of the skin, and covered by iodoform collodion as a germ-proof dressing.

Drainage in all non-infected operative wounds is not only unnecessary but detrimental, and should not be used.

He clearly shows that he was the first, not only to use aseptically buried animal sutures, but that he published his experiments five years before Werth in Germany, to whom the credit in Europe has been generally given.—*Med. Record*, March 8, 1890.

NERVOUS AND VASCULAR SYSTEMS.

I. Traumatic Fistula of the Spinal Cord. Cure. By Dr. Vorster (Berlin). The above interesting case occurred in the service of Prof. Rose. The patient, a strongly built locksmith, was stabbed in a brawl. The knife entered to the left of the spinal column, 2 cm. from the spinous process of the second dorsal vertebra, and passed between the laminæ of the first and second dorsal spines. The length of the wound was 5 cm. There was immediate motor and sensory paralysis of both extremities; the anæsthesia extended in front upward as far as the nipple; behind as far as the scapula. The left side was more profoundly affected, there being also analgesia on this side; passive movements possible in both extremities, but attended with great pain in the right leg. There was pain in the back upon movement. Liquor cerebro-spinalis at first did not escape, but subsequently this occurred to such a marked degree as to saturate the dressings and necessitate their removal. The wound was not sutured, but after thorough disinfection covered with antiseptic dressings. The patient made a most complete recovery, being finally enabled to walk about without the aid of crutches. The spinal wound healed after a tedious and protracted illness of the patient, the details of which are given in the original article, the whole picture being that of paraplegia of the lower extremities, followed by symptoms of Brown-Sequard's